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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,006	03/16/2007	Bernhard Jakoby	10191/4759	6976

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EXAMINER	
GISSEL, GUNNAR J	

ART UNIT	PAPER NUMBER
2856	

MAIL DATE	DELIVERY MODE
05/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,006	JAKOBY, BERNHARD	
	Examiner	Art Unit	
	Gunnar J. Gissel	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *5/25/2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/25/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 5 has a box labeled "t-measurement", but the label extends out of the box, and the font does not lend itself to scanning, so re-labeling the box would, hopefully, improve legibility. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 19-22, 28-35 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Application 2002/0194906 to Anthony Goodwin et al. (Goodwin).

Regarding Claim 19, Goodwin discloses a sensor for measuring the viscosity of a liquid, comprising: at least one piezoelectric component configured as a resonator (Goodwin, resonator 32); at least one first starting electrode situated on a sensitive surface of the sensor (Goodwin, electrodes 46); at least one second starting electrode (Goodwin, electrodes 46); and at least one heating electrode provided for heating the liquid to be measured (Goodwin, page 6, claim 17).

Regarding Claim 20, Goodwin discloses the at least one heating electrode is situated on or next to the sensitive surface of the sensor (Goodwin, figure 6, heating electrode 65).

Regarding Claim 21, Goodwin discloses the at least one heating electrode is configured in one piece with the at least one first starting electrode (Goodwin, figure 6).

Regarding Claim 22, Goodwin discloses the at least one heating electrode spans a surface area of the sensor having a central area (Goodwin, figure 6), and wherein the central area includes a center region, and wherein the center region includes a center point. Goodwin's heating electrode spans an area of the sensor surface. Goodwin's heating electrode also has a central area, where the central area has a central region and a center point, as do all quadrilaterals. Goodwin's heaters are arranged approximately symmetrically across the surface of the sensor, and operate at the same

temperature, therefore making an approximately uniform temperature distribution in an operating temperature range (Goodwin, figure 6).

Regarding Claim 28, Goodwin discloses a temperature measuring sensor (Goodwin, heat gauge 67).

Regarding Claim 29, Goodwin discloses the at least one heating electrode is incorporated in the temperature measuring sensor (Goodwin, paragraph 41).

Regarding Claim 30, Goodwin discloses at least one of the at least one first starting electrode, the at least one second starting electrode, and the at least one heating electrode is coated with an insulation layer (Goodwin, paragraph 45).

Regarding Claim 31, Goodwin discloses a method for measuring the viscosity of a liquid, comprising: contacting at least one sensitive surface of a sensor with the liquid to be measured (Goodwin, paragraph36); heating the liquid by a heating electrode in the area of the sensitive surface (Goodwin, heating electrode 65); inducing the sensor to oscillate by applying an alternating voltage to the sensor (Goodwin, paragraph 39); and ascertaining a viscosity value of the liquid from values of electrical parameters measured by the sensor (Goodwin, paragraph 27).

Regarding Claim 32, Goodwin discloses measuring the temperature of the liquid (Goodwin, heat gauge 67).

Regarding Claim 33, Goodwin discloses that upon reaching a predefined temperature, the heating of the liquid is interrupted, the electrical parameters are measured, and the viscosity value of the liquid is ascertained (Goodwin, paragraph 41).

Regarding Claim 34, Goodwin discloses that the viscosity value of the liquid is ascertained for a plurality of predefined temperatures (Goodwin, figure 10).

Regarding Claim 35, Goodwin discloses that a curve of the liquid's viscosity plotted against the temperature is generated based on the viscosity values of the liquid ascertained at the plurality of predefined temperatures (Goodwin, figure 10)r.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 23, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwin in view of US Patent 5,958,269 to Makoto Suzuki et al. (Suzuki).

Regarding Claims 23, 24, and 25 Goodwin discloses a sensor, but does not explicitly disclose that the heating electrode has a meandering shape or that a resistance per unit length of the at least one heating electrode varies for at least two areas of the at least one heating electrode, or that the at least one heating electrode has at least two areas of different cross section.

Suzuki discloses that the heating electrode has a meandering shape (Suzuki, figure 3) and that a resistance per unit of length of the at least one heating electrode varies for at least two areas of the at least one heating electrode (Suzuki figure 3) and that the at least one heating electrode has at least two areas of different cross sections

(Suzuki, figure 3) and that the resistance per unit of length of the at least one heating electrode varies as a function of distance from one of the central area, the center region, and the center point (Suzuki, figure 3), and that the resistance per unit of length of the at least one heating electrode increases with distance from one of the central area, the center region, and the center point, toward an edge of the surface area of the sensor (Suzuki, figure 3).

It would have been obvious to modify Goodwin by employing a meandering shape heating element since Suzuki teaches the use of a meandering shaped heating element in a fluid processing system. Furthermore, the Court held that a modification which involved a mere change in shape is a matter of choice, which a person of ordinary skill in the art would have found obvious. In Re Dailey, 357 F.2D 669. 149 USPQ 47 (CCPA 1966). See MPEP 2144.04.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Application Publication 2005/0145019 concerns a temperature sensitive viscosimeter. US Patent 6,961,516 concerns a liquid device incorporating a meandering heater. US Patent 6,939,451 concerns a micrufluidics chip with integrated temperature control. US Patent 7,257,984 concerns an oil quality sensor. US Patent Application Publication 2006/0010964 concerns a rheological device. US Patent 7,043,969 concerns a fluid sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gunnar J. Gissel whose telephone number is (571)270-3411. The examiner can normally be reached on Mon-Fri, 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571)272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GJG/

5/21/2008
/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856